

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for manufacturing nanostructure patterns comprising:

overlaying a ~~multilayer organic molecule resist on at least a portion of at least one parent~~ structure selectively deposited on a substrate with an organic molecule having a metal ion coordinating portion adsorbing on the parent structure in preference to the substrate to form an organic molecule layered parent structure;

applying a metal ion solution to the organic molecule layered parent structure to attach the metal ion to the metal ion coordinating portion of the organic molecule;

forming an organic molecule layer attached to the metal ion;

depositing a layer over the at least one parent structure and in contact with at least a portion of the ~~multilayer organic resist~~ molecule layer; and

removing the ~~multilayer organic molecule resist~~ layer contacting the parent structure and the organic molecule layer to leave a residual structure.

2. (Original) The method of claim 1 wherein the step of removing the organic resist is chemical.

3. (Original) The method of claim 1 wherein the step of removing the organic resist is electrochemical.

4. (Currently Amended) The method of claim 1 wherein the step of removing the multilayer organic molecule resist removes a portion of the layer deposited ~~layer~~.

5. (Original) The method of claim 1 wherein the residual structure includes a line.
6. (Original) The method of claim 1 wherein the residual structure includes a dot.
7. (Original) The method of claim 1 wherein the residual structure includes a ring.
8. (Original) The method of claim 1 wherein the residual structure includes two or more adjacent lines.
9. (Previously Presented) The method of claim 1 wherein a first portion of the at least one parent structure is a first material and a second portion of the at least one parent structure is a second material.
10. (Original) The method of claim 1 further comprising imaging the residual structure with electron microscopy.
11. (Original) The method of claim 1 further comprising imaging the residual structure with scanning probe microscopy.
12. (Original) The method of claim 1 wherein the substrate is silicon.

13. (Currently Amended) The method of claim 1 wherein the organic molecule resist is a mercaptoalkanoic acid.

14. (Original) The method of claim 1 wherein the layers of the multilayer organic molecule resist are connected with ions.

15. (Original) The method of claim 13 wherein each layer or organic molecules is connected with Cu^{2+} ions.

16. (Previously Presented) The method of claim 1 further comprising smoothing the at least one parent structure.

17. (Original) The method of claim 16 wherein smoothing is accomplished chemically.

18. (Original) The method of claim 16 wherein smoothing is accomplished electrochemically.

19. (Previously Presented) The method of claim 1 further comprising designing the at least one parent structure to result in the residual structure having a width less than a width of the at least one parent structure.

20. (Previously Presented) The method of claim 19 wherein the step of designing includes designing the at least one parent structure to have at least one concave segment.

21. (Original) The method of claim 1 further comprising removing a portion of the residual structure.

22. (Currently Amended) The method of claim 1 further comprising:
overlaying ~~a second multilayer organic molecule resist~~ on at least a portion of the residual structure with a second organic molecule having a metal ion coordinating portion adsorbing on the parent structure in preference to the substrate to form an organic molecule layer contacting the parent structure;

applying a metal ion solution to the second organic molecule layered parent structure to attach the metal ion to the metal ion coordinating portion of the second organic molecule;

forming an organic molecule layer to the metal ion;

depositing a second layer over the residual structure and in contact with at least a portion of the second ~~multilayer organic resist~~ molecule layer; and

removing the second ~~multilayer organic molecule resist~~ layer contacting the parent structure and the organic molecule layer to leave a second residual structure.

23. (Original) The method of claim 22 further comprising smoothing the residual structure.

24. (Original) The method of claim 23 wherein smoothing is accomplished chemically.

25. (Original) The method of claim 23 wherein smoothing is accomplished electrochemically.

26. (Original) The method of claim 22 further comprising designing the residual structure to reduce the second residual structure size.

27. (Original) The method of claim 22 wherein the second layer adheres only to the residual structure.

28. (Original) The method of claim 22 further comprising removing a portion of the second residual structure.

29. (Original) The method of claim 22 further comprising removing a portion of a subsequent generation residual structure.

Claims 30-32 (Canceled)

33. (Previously Presented) The method of claim 1 further comprising designing the at least one parent structure to result in the residual structure being spaced more closely than the at least one parent structure.

34. (New) The method of claim 1 further comprising the step of:
repeating in sequence the steps of applying the metal ion solution and forming the organic molecule layer.
35. (New) The method of claim 34 wherein the repetition step is repeated until up to 39 layers of the organic molecule layer are formed.
36. (New) The method of claim 1 wherein the substrate is a silicon oxide.